

## ACTION SHEET 13

between

The United States Department of Energy (DOE)

and

The Japan Atomic Energy Research Institute (JAERI)

for

### Study of Technologies to Analyze Minute Amount of Nuclear Materials

Pursuant to the DOE/JAERI Agreement Concerning Research and Development in Material Control, Accountancy, Verification, and Physical Protection, DOE and JAERI have agreed to cooperate on the Clean Laboratory Project of JAERI related to development of a clean chemistry laboratory and procedures for analysis of environmental samples (hereinafter referred to as the Project). In doing so, DOE and JAERI agree to carry out the cooperative effort outlined in this Action Sheet (hereinafter referred to as the Task).

#### A. Objective

The objective of the Task is to participate in a joint study of technologies to analyze minute amount of nuclear materials in relation to environmental sample analyses for safeguards.

#### B. Current Activities

The DOE assisted the IAEA in the design, construction, and operations of a clean chemistry laboratory at the Seibersdorf Laboratory complex. The laboratory design used at Seibersdorf is patterned after the facility at the Los Alamos National Laboratory (LANL). Five DOE laboratories are qualified as members of the IAEA Network of Analytical Laboratories for analysis of environmental samples for safeguards. The DOE has assisted in the training of inspectors to obtain samples and laboratory personnel for analyzing samples in support of environmental sampling being implemented as a safeguards tool under the IAEA 93+2 program. The DOE is assisting the IAEA to produce quality assurance samples applicable to specific environmental matrices.

JAERI has a scheme of building and operating a clean laboratory at the JAERI Tokai Research Establishment. JAERI has funds budgeted in Japanese Fiscal Year (JFY) 1996 for design and establishment of usage requirements for the clean chemistry laboratory and for training of an expert among other items. JAERI is selecting a location for the facility and has initiated preparatory work for the design process. JAERI has requested technical collaboration with the DOE to support the design, construction, and operation of the laboratory and for implementation of appropriate technical procedures. Applications to be supported are safeguards, CTBT, and other nuclear related sample collection and analysis. (\*)

\* Note: Integrating all of the perceived uses into the design aspects of a clean chemistry laboratory is essential to assure the quality and integrity of all the sample analysis results.

DOE and JAERI have established a planning and coordination group to oversee and direct the Project throughout its duration under the Action Sheet 11, and also agreed to produce systems requirement documents for the design, construction, and operation of a clean laboratory facility for environmental sample analysis under the Action Sheets 12 and 15.

#### C. Scope of Work

This Action Sheet provides for technical collaborations between DOE and JAERI to study technologies for environmental sample analyses for safeguards. To facilitate this collaborations JAERI will send a staff member (Mr. M. Magara) to Los Alamos National Laboratory (LANL) for six weeks.

#### D. Proposed Cooperative Activities

JAERI and LANL will work together to determine appropriate basic techniques for the analysis of nuclear materials in environmental samples for application in a proposed clean chemistry facility to be located at JAERI. Topics to be investigated will include sample screening, chemical separation techniques, analytical instrumentation techniques, clean laboratory operations, and quality control. The work will be performed for six weeks. At the end of this six week period, a new action sheet will be produced with more specific training activities in relation to the proposed JAERI applications.

The projected schedule for the Task is shown in the attached Provisional Schedule of Activities.

#### E. Program Management

LANL is responsible for the DOE coordination of the joint activities with JAERI. Industrial experts in the U.S. may be used to complement the DOE laboratories' expertise. LANL shall work directly with JAERI in planning tasks and resolving programmatic and technical questions. U.S. DOE's representative in the American Embassy-Tokyo shall serve as the DOE representative for the Project in Japan.

The Safeguards Technology Laboratory at JAERI is responsible for all JAERI interactions under this Action Sheet.

#### F. Fiscal Management

Taking into account the impact the Task incurs to the facility, JAERI shall provide funds for DOE as a fee for the use of clean room to carry out the work at LANL. The amount of payment shall be subject to approval and the appropriation of necessary funding by the Japanese Government. Payment shall be made in the following manner.

A cash contribution of \$20,000 in United States dollars shall be due and payable upon receipt of an invoice to be issued upon or shortly after the date of signatures of this Action Sheet. This payment is subject to approval and the appropriation of necessary funding by the Japanese Government for JFY 1996.

DOE shall be responsible for the planning and management of the funds and shall attempt to complete the JAERI-funded activities satisfactorily and within the cash contributions by JAERI. DOE costs are determined according to DOE's policy for costing work it performs for others as set forth in 10 CFR Part 1009. The total cost to JAERI for DOE'S performance of work under this Action Sheet shall not, without JAERI's prior consent, exceed the contributions set forth above.

DOE shall not begin or carry out work prior to entry into force of the Action Sheet and receipt of the required payments in advance; and work shall not be continued after funds from JAERI have been depleted.

#### G. Duration and Termination

This Action Sheet shall enter into force upon the last day of signature and shall continue in force until mutually agreed by the parties that all activities under this action sheet are complete. This action sheet and its results shall be reviewed at the annual meeting of the Permanent Coordination Group (PCG).

For the United States  
Department of Energy

For the Japan Atomic  
Energy Research Institute

Signature: Kenneth E. Sanders

Signature: Keisuke Kaieda

Printed  
Name: Kenneth E. Sanders

Printed  
Name: Keisuke Kaieda

Title: Director  
International Safeguards Division

Title: Director  
Office of International Affairs

Date: 2/14/97

Date: 2/14/97

### Provisional Schedule of Activities

<u>Activity</u>	<u>Responsibility</u>	<u>Schedule/Status</u>
1. The Task Starts	LANL/JAERI	January 1997
2. Develop basic techniques	LANL/JAERI	February- March 1997
3. Develop and Sign Advanced techniques Action Sheet	LANL/JAERI	March-April 1997
4. Complete Task	LANL/JAERI	April 1997